

Graded Assessment – Layered Architecture

Quiz, 7 questions

12/12 points (100%)

Congratulations! You passed!

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points

1.

In a LAN, which address is used to transfer frames to appropriate destination?



IP address



Physical address

Correct

Correct. Physical address (also known as MAC address) is expected to uniquely identify each node on a segment and allows frames to be marked for specific hosts.



Domain name



None of the above

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points

2.

Suppose an application layer entity wants to send an L-byte message to its peer process, using an existing TCP connection. The TCP segment consists of the message plus 20 bytes of header. The segment is encapsulated into an IP packet that has an additional 20 bytes of header. The IP packet in turn goes inside an Ethernet frame that has 18 bytes of header and trailer. What is the bandwidth utilization in terms of the percentage of the transmitted bits in the physical layer corresponds to message information if L = 500 bytes?



90%

Correct

Correct. Since message overhead includes - TCP: 20 bytes of header, IP: 20 bytes of header, and Ethernet: total 18 bytes of header and trailer. Therefore, the total message overhead is 58 bytes.
 $500 / (500 + 58) = 90\%$ (approx.)

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100%

80%

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points

3.

Of the following services, which service(s) does the IP layer provides?

☐

Error control

**Un-selected is correct**☐

Flow control

**Un-selected is correct**☐

Connection-based data transfer

**Un-selected is correct**☐

None of the above

**Correct**

Correct. Services provided by IP layer are addressing, fragmenting, packet timeouts

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points

4.

Which of the following is true about the ways in which the OSI reference model and TCP/IP reference model differ.

☐

They differ in the number of layers

☐

TCP/IP model does not have session layer, but OSI model has

☐

TCP/IP model does not have presentation layer, but OSI model has

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Correct

Correct. All the other options are true about the ways in which the OSI model differs from TCP/IP model



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points

5.

Which of following statements is true about how the data link layer and transport layer differ?



Data link layer is concerned with framing and the transport layer is not

Correct

Correct. Transport layer is not concerned with framing rather it uses segment for TCP and datagram for UDP.



Data link layer is concerned with flow control and the transport layer is not



Data link layer is concerned with multiplexing and the transport layer is not



All of the above



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point

6.

This layer is an addition to OSI model



Application layer



Presentation layer



Session layer



Presentation layer and Session layer

Correct

Correct. Addition of both presentation and session layer

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1/1 point

12/12 points (100%)

7.

The functionalities of presentation layer includes

☐

Data compression

**Un-selected is correct**☐

Data encryption

**Un-selected is correct**☐

Data description

**Un-selected is correct**☐

All of the above

**Correct**

Correct. All of the mentioned are functionalities of presentation layer "page 45 of Computer Networks by Tanenbaum and Wetherall" 5th Edition

